# Standards-based Approach to Mobilizing the Web: Integrated Operator Perspective

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November 13, 2007

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# content

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# 1

## what's in a name

# France Telecom Group

- presence in 220 countries and territories

- 190,000 employees (June'07)

- 102.5 million mobile customers worldwide (June'07) – including 10 million mobile broadband (EDGE & UMTS)

- 2006 revenues of 51.7 billion

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*one of the world's leading communication brands*

# France Telecom Group: an integrated operator

Internet

Mobile

Broadband

*Integrated services*

Consistent user experience across multiple channels

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# Orange Labs: worldwide innovation network



8 R&D labs in France

Paris

London

Warsaw

Beijing

Seoul

Tokyo

San Francis...

Boston

Barcelona

**OPENING SOON**

Cairo + Amman

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# 2

## web on mobile – then and now

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# THEN – Internet in your pocket

■ "…*In the summer of 2000, new mobile phones delivered the "mobile internet". Which meant blocky, monochrome text on a 128x128 screen, arriving in twenty words splats, with thirty seconds delay between each splat, costing you 10 pence per splat …*"

*Source: The Register, June 21, 2006*



Amazon.com homepage on
a WAP device
*Source: "How WAP works" -
howstuffworks.com*

■ "…*The WAP programming model is the WWW programming model with a few enhancements … Optimizations and extensions have been made in order to match the characteristics of the wireless environment … *"

*Source: Wireless Application Protocol Architecture Specification, WAP-210-WAPArch-20010712*
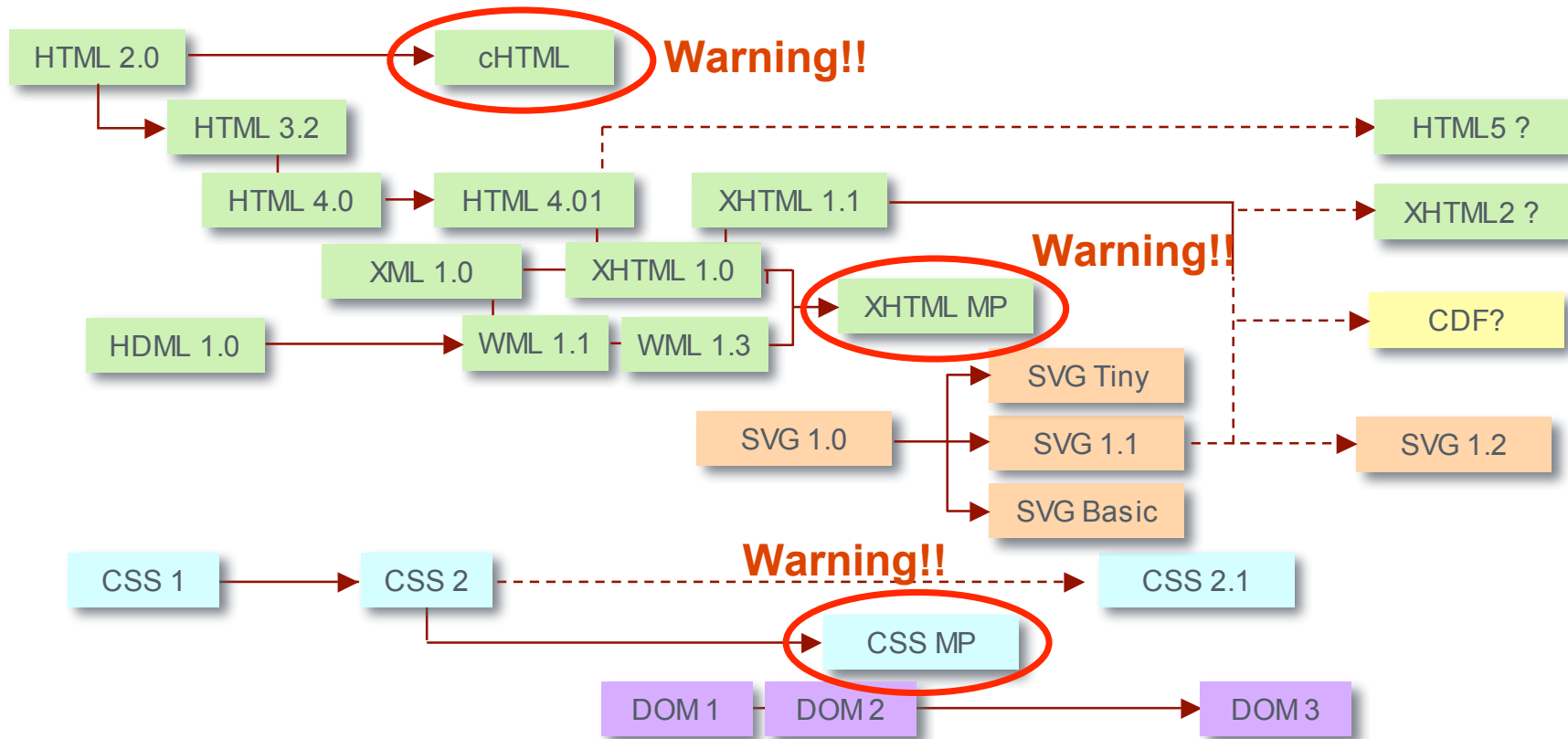
# THEN – why the WAP fiasco?

- poor usability

- hard to find content

- limited availability of useful content and applications

- costly and slow access
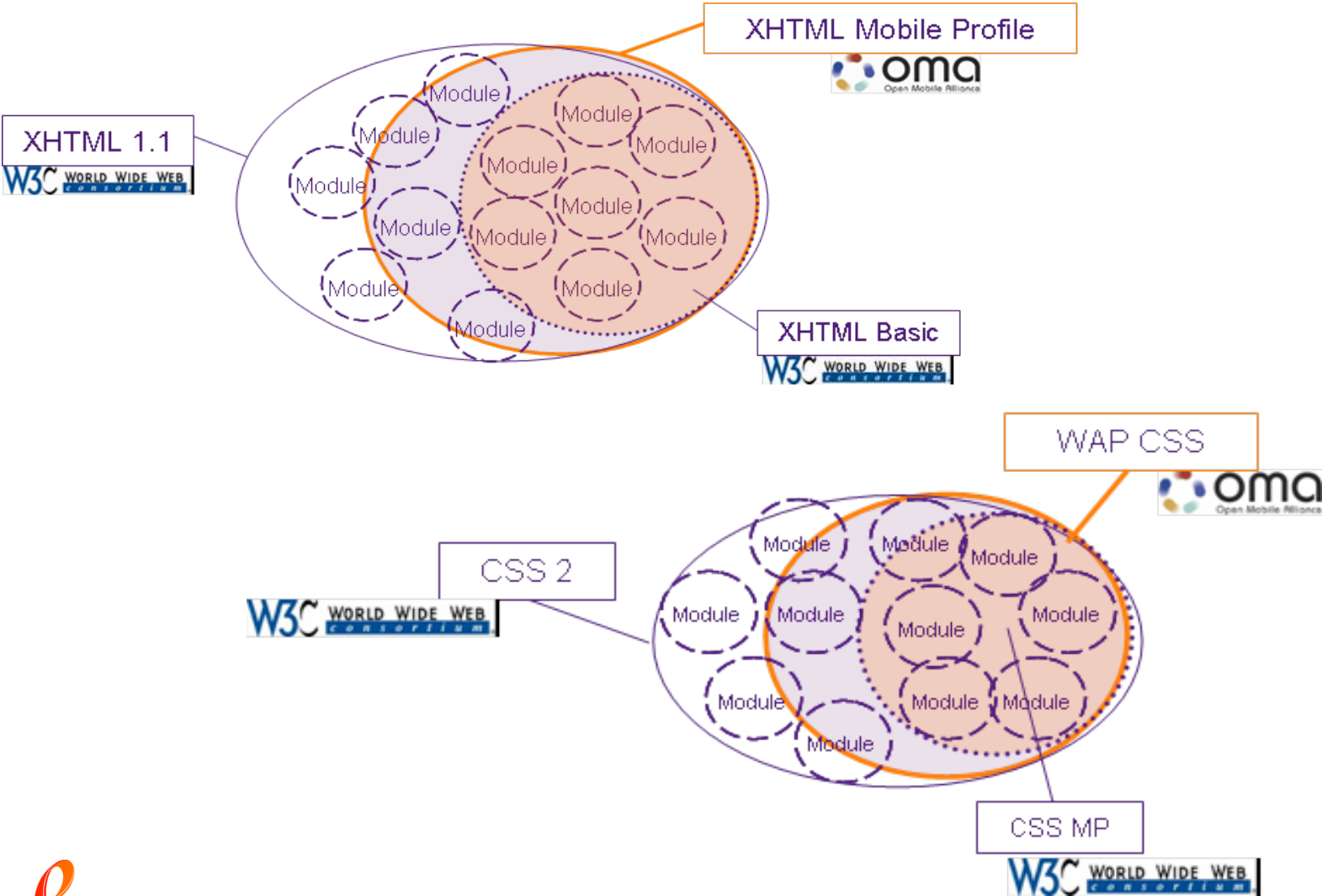
## … *not to mention*

- standard fragmentation and non-compliance – further exacerbated by

    - device diversity

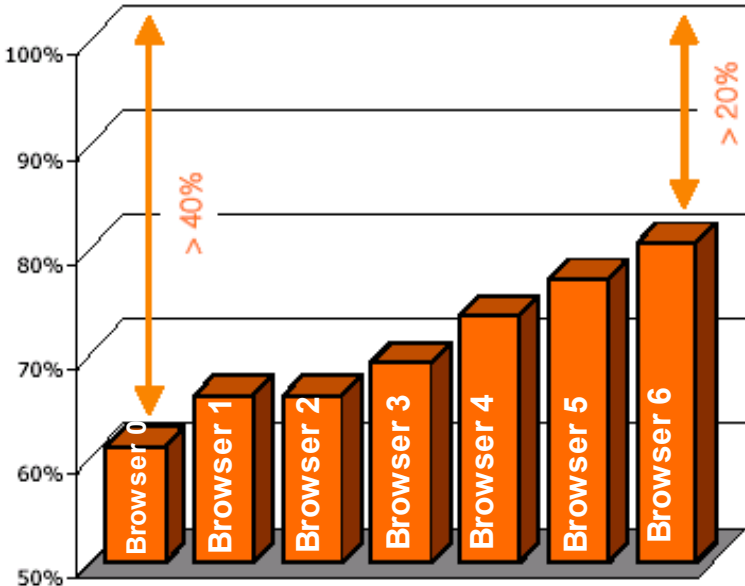    - use of proprietary proxies "*to optimize and enhance the connection between the wireless domain and the WWW*"

# Genealogy of standards

HTML 2.0 → cHTML **Warning!!**

HTML 2.0 → HTML 3.2 → HTML 4.0 → HTML 4.01

XHTML 1.1 → → → HTML5 ?

XHTML 1.1 → → → XHTML2 ?

XML 1.0 → XHTML 1.0

HDML 1.0 → WML 1.1 → WML 1.3

XHTML MP **Warning!!**

SVG Tiny

SVG 1.0 → SVG 1.1 → → → SVG 1.2

SVG Basic

→ → → CDF?

CSS 1 → CSS 2 **Warning!!** → CSS 2.1

CSS MP

DOM 1 — DOM 2 → DOM 3

# Some unintended consequences

# Standard compliance …*or bug compatibility*?



> 40%

> 20%

*Source: Orange*
*Study of browser compliance with XHTML1.1*

*Source: Orange*
*Study of browser compliance with CSS2.1*



Legend:
- CSS2.1 Passed
- CSS2.1 Technically Passed
- CSS2.1 Device Problem
- CSS2.1 Failed
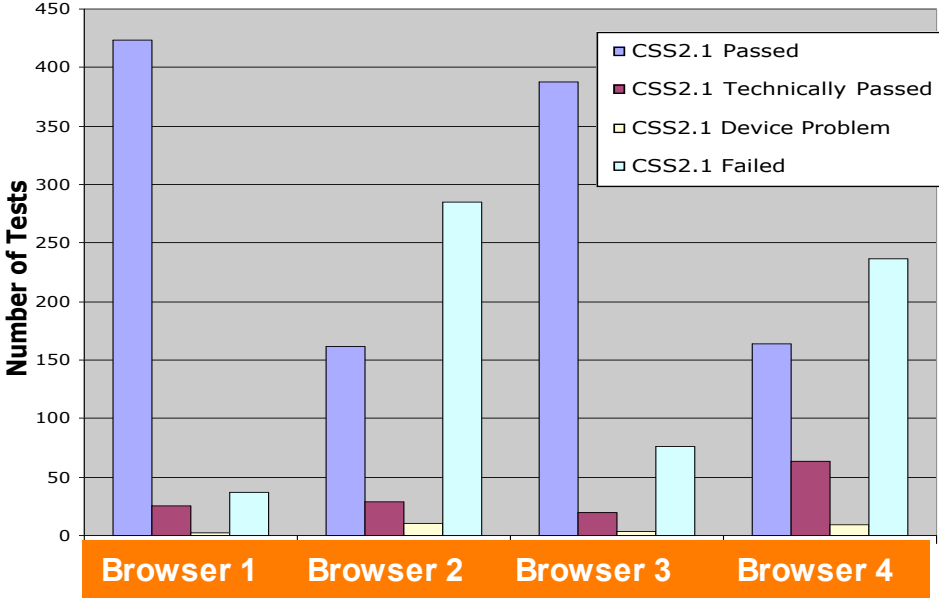
# NOW – W3C Mobile Web Initiative

- *"The Mobile Web Initiative's goal is to improve Web content production and access for mobile users and the greater Web"*

- Launched on May 11, 2005 at the WWW2005 Conference in Chiba, Japan

- MWI founding sponsors included

    - Telecom Operators
        *France Telecom, NTT DoCoMo, TIM Italia, Vodafone*

    - Equipment Vendors
        *Ericsson, HP, Nokia*

    - Software and IT Service Vendors
        *Afilias, Argo Group, Bango.net, Drutt Corporation, Jataayu Software, MobileAware, Opera Software, Segala M Test, Sevenval, RuleSpace, Volantis*

# NOW – W3C Mobile Web Initiative

**W3C | Mobile Web Initiative**

## The Web on the Move

*"The Mobile Web Initiative's goal is to make browsing the Web from mobile devices a reality", explains Tim Berners-Lee, W3C Director and inventor of the Web. "W3C and mobile industry leaders are working together to improve Web content production and access for mobile users and the greater Web."*

### About MWI

- MWI Home page
- MWI Team blog
- Activity Statement
- Sponsors
- Participation and Sponsoring
- MWI Talks

### Working Groups

- Best Practices WG
- Device Description WG
- Test Suites WG
- MWI Steering Council (Sponsors-Only)

### Related

- Mobile Web Best Practices checker
- The Mobile Web in Developing Countries
- Planet Mobile Web
- 3GWeb IST project
- Former Mobile Access activity

### FEATURED SPONSOR

**ftgroup**

Become a MWI Sponsor

### TIP OF THE DAY

[OBJECTS OR SCRIPT] Do not rely on embedded objects or script. *(Excerpt from the Mobile Web Best Practices 1.0; also presented as Flip Cards)*

### NEXT EVENT

MWI events in November 2007:

- MWI is present (mobile Web standards seminar and Tim Berners-Lee keynote) at Mobile Internet World to be held in Boston (USA), **November 13-15**, 2007.
- Dominique Hazaël-Massieux will present the Mobile Web Best Practices at Paris Web 2007, on **16 Nov. 07**.
- Stéphane Boyera will present mobile Web for development at AfricaCom on **21 Nov. 07**, in Cape Town, South Africa.

## Latest News

**Mobile Ajax: Workshop Report** — 16 October 2007

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# NOW – W3C Mobile Web Best Practices 1.0

## Mobile Web Best Practices 1.0

### Basic Guidelines

### W3C Proposed Recommendation 2 November 2006

**This version:**
  http://www.w3.org/TR/2006/PR-mobile-bp-20061102/
**Latest version:**
  http://www.w3.org/TR/mobile-bp/
**Previous version:**
  http://www.w3.org/TR/2006/CR-mobile-bp-20060627/
**Editors:**
  Jo Rabin, mTLD Mobile Top Level Domain (dotMobi)
  Charles McCathieNevile, Opera Software [Early Drafts]

### Abstract

This document specifies Best Practices for delivering Web content to mobile devices. The principal objective is to improve the user experience of the Web when accessed from such devices.

The recommendations refer to delivered content and not to the processes by which it is created, nor to the devices or user agents to which it is delivered.

It is primarily directed at creators, maintainers and operators of Web sites. Readers of this document are expected to be familiar with the creation of Web sites, and to have a general familiarity with the technologies involved, such as Web servers and HTTP. Readers are not expected to have a background in mobile-specific technologies.

W3C Proposed Recommendation

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# **NOW** – mobileOK Basic 1.0

W3C Working Draft

**W3C**®

## W3C mobileOK Basic Tests 1.0

### W3C Working Draft 28 September 2007

**This version:**
    http://www.w3.org/TR/2007/WD-mobileOK-basic10-tests-20070928/
**Latest version:**
    http://www.w3.org/TR/mobileOK-basic10-tests/
**Previous version:**
    http://www.w3.org/TR/2007/WD-mobileOK-basic10-tests-20070525/
**Editors:**
    Sean Owen, Google
    Jo Rabin, dotMobi (and before at Segala)

## Abstract

This document defines the tests that provide the basis for making a claim of W3C® mobileOK Basic™ conformance and are based on W3C Mobile Web Best Practices [BestPractices]. Content which passes the tests has taken some steps to provide a functional user experience for users of *basic* mobile devices whose capabilities at least match those of the Default Delivery Context (DDC).

mobileOK Basic is the lesser of two levels of claim, the greater level being mobileOK Pro, described separately. Claims to be W3C mobileOK conformant are represented using Description Resources (see [POWDER]), also described separately.

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# NOW – Mobile Web Best Practices 1.0



**foreword**

"Mobile Web Best Practices 1.0" is a W3C Web Standard that helps people design and deliver content that works well on mobile devices. This set of cards summarizes the guidelines of that document in ten themes. By following these guidelines, content producers will broaden their audience, create effective Web sites and applications, and make browsing the Web convenient on more devices.

For more information:
http://www.w3.org/TR/mobile-bp/

**10 ways to mobilize**

- **Design** for One Web
- **Rely** on Web standards
- **Stay away** from known hazards
- **Be cautious** of device limitations
- **Optimize** navigation
- **Check** graphics & colors
- **Keep** it small
- **Use** the network sparingly
- **Help & guide** user input
- **Think** of users on the go

# NOW – mobileOK reference checker



**W3C mobileOK Checker [ALPHA]**
Evaluating Web pages through mobileOK Basic

**NB**: this service is released as an **alpha** demonstrator of what the W3C mobileOK checker service will look like; it is very likely to time out on some sites, esp. if they use a great number of links.

**Check by URI**

Address of the document to check:

[                                        ]

[ Check ]

script $Revision: 1.26 $ of $Date: 2007/10/30 17:28:13 $
by Dominique Hazaël-Massieux
based on mobileOK checker library
COPYRIGHT © 1994-2007 W3C® (MIT, ERCIM, KEIO), ALL RIGHTS RESERVED. W3C LIABILITY,
TRADEMARK, DOCUMENT USE AND SOFTWARE LICENSING RULES APPLY. YOUR INTERACTIONS
WITH THIS SITE ARE IN ACCORDANCE WITH OUR PUBLIC AND MEMBER PRIVACY STATEMENTS.

W3C Mobile Web Initiative

Support this tool, become a
W3C Contributing Supporter

# NOW – ready.mobi testing tool

# NOW – mobile development communities

# NOW – less confusion about standards?

## Comparison of XHTML Mobile Profile and XHTML Basic

Posted November 28th, 2006 by admin

This article describes the differences between some different flavours of XHTML. The table covers XHTML Mobile Profile and XHTML Basic, and some different versions of each.

Version 1.2 (update), 29 Jan 2007

Jo Rabin

Some references are works in progress and are subject to change

| Module [1] | Basic 1.0 [2] | MP 1.0 [3] | MP 1.1 [4] | MP 1.2 [5] | Basic 1.1 1 Nov [6] |
|---|---|---|---|---|---|
| Structure | body, head, html, title | (same) | (same) | (same) | (same) |
| Text | abbr, acronym, address, blockquote, br, cite, code, dfn, div, em, h1, h2, h3, h4, h5, h6, kbd, p, pre, q, samp, span, strong, var | (same) | (same) | (same) | (same) |
| Hypertext | a | (same) | (same) | (same) | (same) |
| List | dl, dt, dd, ol, ul, li | (same) | (same) | (same) | (same) |
| (Basic) Forms | form, input, label, option, select, textarea | (adds) fieldset, optgroup | (same) | (adds) button, legend | (same) |
| Tables | caption, table, | (same) | (same) | (same) | (same) |

*Source:*
*http://dev.mobi/node/119*

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# NOW – less confusion about standards?



## Comparison of CSS 2.1, CSS MP, WCSS and CSS Level 1

Posted January 18th, 2007 by admin

This tables summarizes the differences between the different flavours of CSS that are in use and is a useful reference for developers who are making the transition from from PC web design to mobile web design.

Version 0.9 (Draft), 29 Jan 2007

Jo Rabin

Some references are works in progress and are subject to change

| Group | Property | CSS 2.1 [1] | CSS-MP [2] | WCSS [3] | CSS 1 [4] |
|---|---|---|---|---|---|
| Access Keys | -wap-accesskey | (not specified) | (same) | none \|<KeyCombinationList> \| inherit | |
| at-rules | @charset | (supported) | (same) | | (not specified) |
| | @import | (supported) | (same) | | |
| | @media | (supported) | handheld \| all | handheld \| all | (not specified) |
| | @page | (supported) | (optional) | (not specified) | (not specified) |
| | border | [<border-width> \|\| <border-style> \|\| 'border-top-color' ] \| inherit | (same) | (same) | <border-bottom \|\| <border-style: <color> |
| | border-color | [<color> \| transparent ]{1,4} \| inherit | (same) | (makes inherit optional) | (omits inherit) |
| | border-style | <border-style>{1,4} \| inherit | (same) | (makes inherit optional) | (omits inherit) |
| | border-top, border-right, | [<border-width> \|\| <border-style> \|\| | | | <border-bottom |

*Source: http://dev.mobi/node/154*

# NOW – standard compliance revisited

**W3C® | Mobile Web Initiative**   Mobile Web Test Suites Working Group

## Statistics on submitted results for CSS MP 1.0 Test Suite

(see also the collected results for other test suites)

(the numbers Y/X in each cell indicates how many time the given result (Pass/Fail/Cannot tell) was submitted for a given test case and a given user agent.)

View the results with all user agents - the current view is restricted to mobile web user agents.

| Test case | Mozilla/5.0 (SymbianOS/9.1; U; en-us) AppleWebKit/413 (KHTML, like Gecko) Safari/413 100% tests run) | Mozilla/5.0 (compatible; Jataayu/jB5/5.0; Windows XP; Generic; en;) 100% tests run) | Mozilla/5.0 (SymbianOS/9.1; U; en-us) AppleWebKit/413 (KHTML, like Gecko) Safari/413 es6li 100% tests run) | Mozilla/5.0 (iPhone; U; CPU like Mac OS X; en) AppleWebKit/420+ (KHTML, like Gecko) Version/3.0 Mobile/1A543a Safari/419.3 100% tests run) | Mozilla/4.0 (PSP (PlayStation Portable); 2.00) 100% tests run) | |
|---|---|---|---|---|---|---|
| Type element selectors | 1/1 | 1/1 | 1/1 | 2/2 | 1/1 | |
| Syntax and parsing of unknown | 1/1 | 1/1 | 1/1 | 2/2 | 1/1 | |

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# NOW – standard compliance revisited

| | | | | | |
|---|---|---|---|---|---|
| **CSS 2.1 Test Suite:** margin-right | 1/1 | 1/1 | 1/1 | 1/1 | 3/3 |
| **CSS 2.1 Test Suite:** margin-right | 2/2 | 1/1 | 1/1 | 1/1 | 2/3 / 1/3 |
| **CSS 2.1 Test Suite:** margin-right | 1/1 | 1/1 | 1/1 | 1/1 | 3/3 |
| **CSS 2.1 Test Suite:** margin-right | 1/1 | 1/1 | 1/1 | 1/1 | 3/3 |
| **CSS 2.1 Test Suite:** margin-right | 1/1 | 1/1 | 1/1 | 1/1 | 2/3 / 1/3 |
| **CSS 2.1 Test Suite:** margin-right | 1/1 | 1/1 | 1/1 | 1/1 | 3/3 |
| **CSS 2.1 Test Suite:** margin-right | 1/1 | 1/1 | 1/1 | 1/1 | 2/2 |
| **CSS 2.1 Test Suite:** margin-right | 1/1 | 1/1 | 1/1 | 1/2 / 1/2 | 2/2 |
| **CSS 2.1 Test Suite:** margin-right | 1/1 | 1/1 | 1/1 | 1/1 | 2/2 |
| **CSS 2.1 Test Suite:** margin-right | 1/1 | 1/1 | 1/1 | 1/1 | 2/2 |
| **CSS 2.1 Test Suite:** margin-bottom | 1/1 | 1/1 | 1/1 | 1/1 | 2/2 |
| **CSS 2.1 Test Suite:** margin-bottom | 1/1 | 1/1 | 1/1 | 1/1 | 2/2 |

# 3
## road ahead

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# AHEAD – web going mobile

- **1 billion** Internet users worldwide in **2005** (up from 420 million in **2000**) – **2 billion** projected for **2010**

  *Source: Computer Industry Almanac, Jan'06*

- **900+ million** PCs in-use in **2005** – projected to exceed **1 billion** in early **2007** and **1.3+ billion** in **2010**

  *Source: Computer Industry Almanac, May'06*

- **2.5 billion** mobile connections worldwide in September **2006** (vs. **2 billion** only a year earlier …) – **3 billion** forecast for **2007**
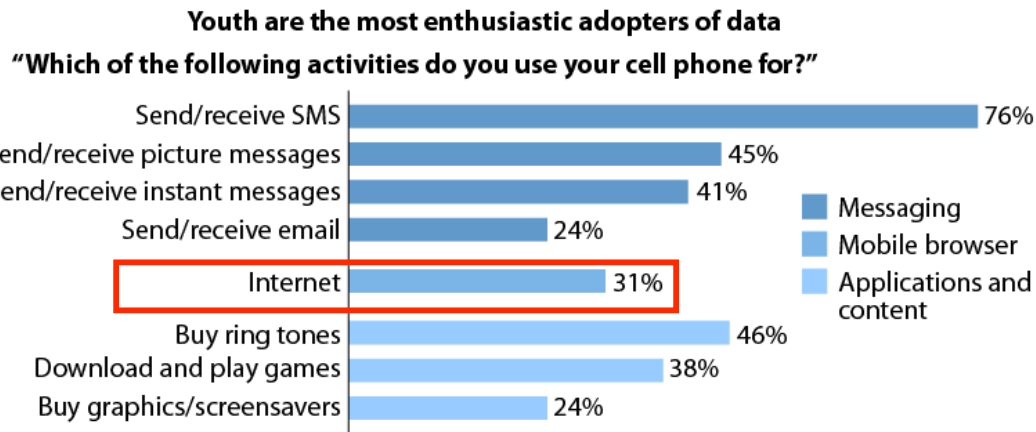
  *Source: ElectricNews.Net, Seph'06*

- **1.3 billion** people will connect to the Internet via mobiles by **2008**

  *Source: dotmobi/IDC, Mar'07*

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# AHEAD – mobile web usage

**Youth are the most enthusiastic adopters of data**

**"Which of the following activities do you use your cell phone for?"**

| Activity | % |
|---|---|
| Send/receive SMS | 76% |
| Send/receive picture messages | 45% |
| Send/receive instant messages | 41% |
| Send/receive email | 24% |
| Internet | 31% |
| Buy ring tones | 46% |
| Download and play games | 38% |
| Buy graphics/screensavers | 24% |

Legend:
- Messaging
- Mobile browser
- Applications and content

Base: US online youth with a mobile phone (ages 12-21)
*Base: US online consumers with a mobile phone (22 and older)
(multiple responses accepted)
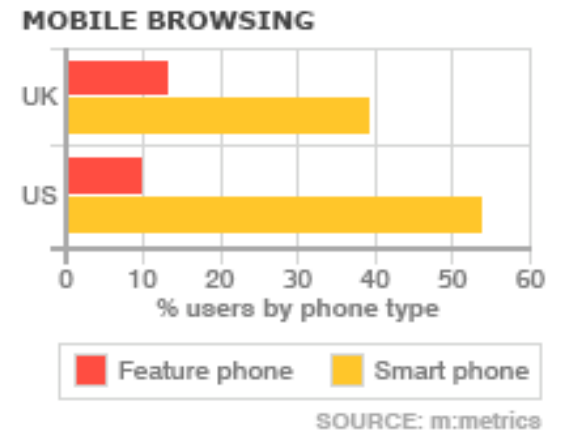
Source: Forrester's North American Consumer Technology Adoption Study Q1 2006 Youth Devices & Access And Retail Online Survey
*Source: Consumer Technographics® Q2 2005 North American Survey

**MOBILE BROWSING**

% users by phone type

- Feature phone
- Smart phone

SOURCE: m:metrics

■ "Whereas only about 10% of regular cell-phone users try to access the Internet from their phones, according to M:Metrics, among iPhone owners the number jumps to 90%"
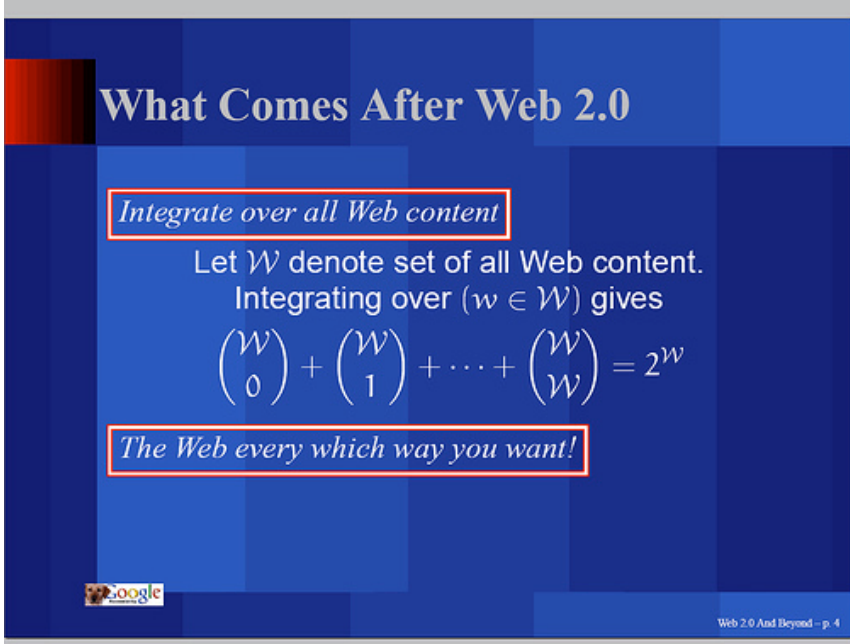
*Source: Business Week "The iPhone Invades Europe", 11/9/2007*

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# AHEAD – Web 2.0 … er, *"web every which way you want?"*

- Mobile user experience is hot!

- Mobile web browser is the next killer app!

- Mobile web applications are the future!

- Mobile widgets are the next big thing!

- AJAX is the next frontier!

- We are creators - not consumers !

*Sources: anonymous – overheard at recent mobile/web 2.0 conferences*



**What Comes After Web 2.0**

Integrate over all Web content

Let $\mathcal{W}$ denote set of all Web content.
Integrating over $(w \in \mathcal{W})$ gives

$$\binom{\mathcal{W}}{0} + \binom{\mathcal{W}}{1} + \cdots + \binom{\mathcal{W}}{\mathcal{W}} = 2^{\mathcal{W}}$$

The Web every which way you want!

Web 2.0 And Beyond – p. 4

*Source: TV Raman (Google)*
*– as presented at the W3C Tech Plenary on Nov.7, 2007*

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# AHEAD – consistent user experience *(e.g., mobile widgets)*

# AHEAD – nut & bolt scenario for web innovation?

**Monday, Mar. 30, 1931**

## Nut & Bolt Cycle

The fact that all U. S. bolts, nuts & rivets are now made in standard sizes is one of the triumphs of Herbert Clark Hoover's career. One of his great doctrines as Secretary of Commerce was that U. S. manufacturers should get together, form trade associations and eliminate industrial waste by agreeing to make their products conform to a common gauge of pattern and quality. In 1925 the bolt, nut & rivet industry showed a disheartening loss of $3,000,000. Having organized itself as Mr. Hoover suggested, it last year made $7,000,000. So well had it learned to standardize that last week, in Manhattan, Federal Judge Frank J. Coleman found the Bolt, Nut & Rivet Manufacturers Association an organization in restraint of trade, ordered it dissolved under the anti-trust law.

The Government charged that after standardizing their products the combined bolt & nut men, controlling 95% of the business, had carried the Hoover doctrine a step too far, had fixed prices by means of discounts, allowances and "a system of freight equalization for preferred customers." Among the associated companies, which did an annual business of $75,000,000, were: Bethlehem Steel Co., Automatic Screw Machine Products Co., Erie Bolt & Nut Co.. Pacific Coast Steel Corp., Wrought Iron Co. of America. Defending counsel included James Francis Burke, counsel for the Republican National Committee, and onetime Governor Nathan L. Miller of New York. Consenting to the decree which put it out of business, the Association explained: "By this disposition of the matter the industry avoids the expense and annoyance of a long litigation. Immediate steps will be taken to organize a new association which will so operate as to be free from any criticism. . . ."

*Source: TIME Magazine / time.com*
*Extra credit to a person who brought it up during the W3C Tech Plenary discussion on Nov.7, 2007*

thank you!

merci!

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